

Docket: NECG 21.093 (100806-00258)

Application: 10/815,120

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REMARKS

This is in response to the Office Action mailed July 11, 2006.

Claims 9-14 have been added and claims 1, 3, and 8 have been amended without adding new matter. Support for the new claims may be found in the specification at page 7, line 12, to page 8, line 17, and support for the the amendments to claims 7 and 8 can be found in paragraph 21, original claim 3, and figures 1 and 2 of the application-as-filed.

Reconsideration of this application is respectfully requested in view of this amendment.

STATUS OF CLAIMS

Claims 1, 2, and 4-14 are pending.

Claim 3 is canceled.

Claims 9-14 have been added.

Claims 5 and 6 are withdrawn from consideration.

Claims 1, 2, 4, 7, and 8 (claim 3 having been canceled) are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-510999 (JP '999) in view of JP 2001064004 (Sumio).

OVERVIEW OF CLAIMED INVENTION

In one non-limiting example, a polarizing electrode is composed of a carbon composite, wherein a single-layer carbon nanohorn aggregate is used as a carbon material of the carbon composite and is made in such a manner that the single-layer carbon nanohorns are aggregated spherically.

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In another non-limiting example, an electric double-layer capacitor comprises a polarizing electrode composed of a carbon composite including a single-layer carbon nanohorn aggregate made in such a manner that the single-layer carbon nanohorns are aggregated spherically as a carbon material.

In yet another non-limiting example, a polarizing electrode comprises a carbon composite including a single-layer carbon nanohorn aggregate, wherein each nanohorn in the aggregate is formed of a tube part and a conical part, and wherein the single-layer carbon nanohorns are aggregated spherically and each nanohorn in said aggregate has said tube part facing a center of the spherical aggregate and said conical part projecting from a surface of the spherical aggregate as a horn.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 2, 4, 7, and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-510999 (hereafter JP '999) in view of JP 2001064004 (hereafter Sumio). To be properly rejected under 35 U.S.C. § 103(a), each and every feature of the claims must be addressed through known prior art or be recognized as an obvious variation thereof. Applicants respectfully contend that the above-mentioned combination of JP '999 and Sumio fails to provide many of the features of Applicants' claims 1, 2, 4, 7, and 8.

JP '999 teaches the use of graphic nanofibers, including nanotubes, as electrodes in electrochemical capacitors. Applicants agree with the Examiner that JP '999 fails to teach the feature of a carbon nanohorn that is aggregated spherically (Office Action; page 2, lines 19-20).

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Sumio apparently teaches a single layer carbon nano-horn structure and its production, wherein the nano-horn structure has a hollow conical structure.

Amended claim 1 includes the feature of canceled claim 3 that the single-layer carbon nanohorn aggregate is supported by a carbon fiber or a carbon nanofiber. The Examiner rejects claim 3 asserting that this feature is disclosed in JP '999 (Office Action; page 3, lines 13-14). However, there is no discussion in the English language abstract of JP '999 relating to the material supporting the single-layer carbon nanohorn aggregate. The English language abstract of JP '999 apparently states only that:

[g]raphic nanofibers, which include tubular fullerenes (commonly called "buckytubes", nanotubes and fibrils, which are functionalized by chemical substitution, are used as electrodes in electrochemical capacitors. The graphitic nanofiber based electrode increases the performance of the electrochemical capacitors.

(English language abstract of JP '999). There is no discussion or suggestion in the abstract of the material supporting the nanofibers. The use of the word "based" does not indicate the support material, but clearly refers to the material itself for the electrode. Therefore, JP '999 give no suggestion or disclosure as to the support of the nanohorn aggregate being a carbon fiber or carbon nanofiber, as recited in amended claim 1. Applicants, therefore, respectfully contend that there is NO teaching or suggestion for the single-layer carbon nanohorn aggregate being supported by a carbon fiber or a carbon nanofiber – a feature of independent claims 1, 7, and 8.

If the examiner still feels that the support material being a carbon fiber is disclosed in either reference, Applicants respectfully remind the examiner that it is the duty of the examiner to specifically point out each and every feature of a claim being rejected as per §1.104(c)(2) of Title 37 of the Code of Federal Regulations and section 707 of the M.P.E.P., which explicitly states

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that "the particular part relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified".

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Absent such a carbon fiber support material, Applicants respectfully submit that independent claims 1, 7, and 8 cannot be rendered obvious by the combination of JP '999 and Sumio. The above-mentioned arguments with respect to independent claim 1 substantially applies to dependent claims 2 and 4 as they inherit all the features of the claim from which they depend. Hence, Applicants respectfully request the Examiner to withdraw the rejections with respect to claims 1-4 and 7-8, and hereby request allowance thereof.

NEW CLAIMS

Claims 9-13 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable. Claim 14 depend from claim 7 and is therefore allowable for at least the same reasons as claim 7 is allowable.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

As this response has been timely filed, no request for extension of time or associated fee is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided to Deposit Account No. 50-1290.

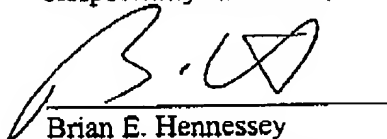
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If it is felt that an interview would expedite prosecution of this application, please do not
hesitate to contact applicant's representative at the below number.

Respectfully submitted,



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